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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Glenn Ferguson

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EXAMINER

REILLY, SEAN M

ART UNIT

PAPER NUMBER

2153

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/699,353	FERGUSON ET AL.	
	Examiner	Art Unit	
	Sean Reilly	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-100 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-100 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application has been assigned to another Examiner.

This Office action is in response to Applicant's amendment and request for reconsideration filed on November 14, 2005. Claims 1-100 are presented for examination. All independent claims have been amended.

Response to Arguments

In response to Applicant's request for reconsideration filed on November 14, 2005, the following factual arguments are noted:

- a. Galis and Zager failed to disclose the particular one-to-many and many-to-one relationships as recited in the claims.

In considering (a), Examiner respectfully disagrees with Applicant's argument. Applicant has simply failed to embrace the full teachings of both Galis and Zager. Galis and Zager are both directed to modeling complex networking systems and the interrelationships between each network element at both a hardware and software level. As disclosed by Galis networks can be modeled at various levels of abstraction and will interrelate with numerous entities in the network due to their complexity (see inter alia, col. 6, lines 18-27, 35-40, Col 9, lines 11-21, col 11, lines 4-16). This discussion in Galis amounts to at least an implicit disclosure that network entities have a many-to-one and one-to-many relationship depending on the level of service and abstraction level being modeled (col 11, lines 4-16). Furthermore Zager also disclosed that network entities in the network include various relationships to each other (col. 6, lines 25-27,

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“this model represents the various components, relevant subcomponents, and their service relationships to each other”) and explicitly recited that the entities may be related to each other according to one-to-many and many-to-one relationships (col. 29, lines 46-61, “relationship types have the following attributes... one-to-many... many-to-one”).

Examiner maintains that modeling a network containing all of Applicant’s claimed entities in a complex networking environment, such as the examples provided by both Galis and Zager, would naturally necessitate Applicant’s claimed interrelationships and thus would be included within a network model by one of ordinary skill in the art at the time of Applicant’s invention when applying the networking modeling techniques of both Galis and Zager. The teachings of Galis and Zager should not be read as if the reader is in a vacuum and has no other knowledge of computer networking.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 1. Claims 1-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galis et al. (U.S. Patent No. 5,175,800, hereinafter “Galis”), in view of Zager (U.S. Patent No. 6,393,386, hereinafter “Zager”).**

The claimed invention, from claim 1 to claim 100, essentially claims a system for modeling all known components of the network, from software to hardware to connection types to protocol specifications, etc., and then using such a model to provision, or configure, the network. Applicant's specification describes using a database to implement such a model (p. 6) and that the model is beneficial to avoid the significant amounts of time necessary to manually, individually configure each component of a network, and to further avoid errors and duplicate formation of configuration parameters when configuring network components (p. 3).

With this in mind, it is necessary to draw attention to the Galis patent. Galis discloses the exact same concept of the claimed invention – i.e. modeling an entire network, including hardware, software, connectivity, etc., using a database (col. 5, lines 44-48, “means for a total communications network configuration. The present invention enables a human user to define and maintain a communications network configuration database with means to transfer the communications network configuration data to a communications network”), for the purpose of “producing more consistent, reliable, and reproducible” configuration of network components (p. 5, lines 58-61).

Thus, regarding claim 1, Galis discloses the claimed data model for representing the components of a computer network and their relationships to one another, comprising:

A plurality of hardware entities and their characteristics (col. 10, lines 65-68, “hardware subcomponents”);

A plurality of software entities and their relationships to the hardware entities (col. 11, lines 1-3, “software logical entities and their interrelationship with the physical network”);

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A plurality of configuration entities used for provisioning the hardware, software, and other components (col. 11, lines 55-60, "configuration database 914");

A plurality of monitoring entities containing information pertaining to monitoring the hardware and software components (col. 4, lines 7-9, "management cards" used for monitoring, and which are part of the entire network that is modeled); and

A plurality of network entities describing attributes of the network (col. 11, lines 45-49, wherein all aspects of the network are modeled).

However, the Galis patent was originally filed in 1987, well before much of the modern Internet and Web technology was developed. Clearly, Galis et al. could not disclose in their patent network components that were either unforeseen or unknown in 1987, but later became well known by October 2000 when the present application was filed. In addition, it would take hundreds, or even thousands of pages for one describing a network model to describe each and every type of component that is part of the network. Thus, the Galis patent naturally does not describe each and every network component known in the entire field of communications networks, but instead focuses on whatever components were most crucial at the time. Nonetheless, Galis clearly maintains that the invention is intended to model "total communications network configuration" (col. 5, lines 44-45).

This said, it would have been obvious to a person having ordinary skill in the art who was reading the Galis patent in October 2000, to use the teachings of Galis to create a network model for configuring networks, wherein the network model could include any network components that were well known as of October 2000. This would be desirable simply to allow for easy configuration of modern networks.

The only network component mentioned in the claims that is not discussed by Galis is the “plurality of domain name server entities” for controlling domain name assignments on the network. Nonetheless, domain name servers were well known as of October 2000, as evidenced by Zager (col. 27, lines 54-61, “domain name services”). Zager is a similar art that describes modeling a network and describes numerous network components that were well known as of March 1998. Thus, given that domain name services were well known at the time this application was filed, it would have been obvious to include them as part of a network model such as taught by Galis, to allow for easy configuration of modern networks.

Galis also failed to specifically recite the detailed entity-by-entity relationship between the network components mentioned in claim 1, describing them as either one-to-many and many-to-one relationships. In addressing this issue, Galis disclosed networks can be modeled at various levels of abstraction and will interrelate with numerous entities in the network due to their complexity (see inter alia, col. 6, lines 18-27, 35-40, Col 9, lines 11-21, col 11, lines 4-16). This discussion in Galis amounts to at least an implicit disclosure that network entities have a many-to-one and one-to-many relationship depending on the level of service and abstraction level being modeled (col 11, lines 4-16). Furthermore Zager also disclosed that network entities in the network include various relationships to each other (col. 6, lines 25-27, “this model represents the various components, relevant subcomponents, and their service relationships to each other”) and explicitly recited that the entities may be related to each other according to one-to-many and many-to-one relationships (col. 29, lines 46-61, “relationship types have the following attributes... one-to-many... many-to-one”).

Examiner maintains that modeling a network containing all of Applicant's claimed entities in a complex networking environment, such as the examples provided by both Galis and Zager, would naturally necessitate Applicant's claimed interrelationships and thus would be included within a network model by one of ordinary skill in the art at the time of Applicant's invention when applying the networking modeling techniques of both Galis and Zager. Thus, given this knowledge, it would have been obvious to a person having ordinary skill in the art to include the specific entity-to-entity relationships mentioned in the claims in the combined system taught by Galis and Zager, to allow for a more flexible and accurate model of the network system, and thus to allow for easy configuration to known, modern networks.

In considering claim 2, Zager further discloses a plurality of queue entities ("event queues") that may be used by agents ("Agent Manager") in accessing information from the data model regarding any of the information contained therein (col. 20, lines 29-41). It would have been obvious to include this feature in the system taught by Galis to facilitate easy storage and access to the information.

In considering claims 3-6, these claims describe the detailed entity-by-entity relationship between the network components mentioned in claim 1, describing them as either one-to-many or many-to-one relationships. In addressing this issue, Galis discloses that the model includes network components' interrelationships with each other (col. 11, lines 1-3, 45-49). Zager also discloses that the model includes the entities' relationships to each other (col. 6, lines 25-27, "this model represents the various components, relevant subcomponents, and their service

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relationships to each other”), and further discloses that the entities may be related to each other according to one-to-many and many-to-one relationships (col. 29, lines 46-61, “relationship types have the following attributes... one-to-many... many-to-one”). Thus, given this knowledge, it would have been obvious to a person having ordinary skill in the art to include the specific entity-to-entity relationships mentioned in the claims in the combined system taught by Galis and Zager, to allow for a more flexible and accurate model of the network system, and thus to allow for easy configuration to known, modern networks.

In considering claim 7, Zager further discloses that the software entities further comprise:

Units entities, unit monitor types entities, unit conflicts entities, role-type entities, platform entities, package-type entities, account-type entities, package-type entities, application-type entities, and pool-type entities, (col. 3, line 50, “business units”; col. 15, lines 28-29, “alarm...unit”; col. 33, line 41, “pool”; col. 35, lines 59-62, “mission package,” col. 35, lines 34-35, “configuration-time roles”; col. 17, line 31, “multiple platforms”; “applications,”). Although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Galis and Zager, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

In considering claims 8-25, these claims, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 7, describing

them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

In considering claim 26, Zager further discloses that the configuration entities further comprise:

Conduits entities, IP-type entities, services entities, role-type configuration entities, component type entities, and status entities (col. 22, lines 50-61, "IP services"; col. 7, lines 23-25, "type," "events," "alarms"; col. 35, lines 34-35, "configuration-time roles"). Although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Zager and Galis, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

In considering claim 27, Zager further discloses that the configuration entities comprise a plurality of manufacturing model entities (col. 25, lines 40-41, "manufacturer's make and model number").

In considering claim 28, Zager further discloses that the configuration entities comprise a plurality of component objects entities (col. 25, lines 28-29, "enterprise object identifier").

In considering claim 29, Zager further discloses a plurality of device roles history entities (col. 15, lines 61-62, “interaction history known as an alarm”).

In considering claim 30, Zager further discloses that the conduits entities represent communication portholes across a firewall (col. 17, lines 35-38, “authentication and authorization security”). Zager further discloses that the model includes the entities’ relationships to each other (col. 6, lines 25-27, “this model represents the various components, relevant subcomponents, and their service relationships to each other”), and further discloses that the entities may be related to each other according to one-to-many and many-to-one relationships (col. 29, lines 46-61, “relationship types have the following attributes... one-to-many... many-to-one”). Although the system taught by Zager does not explicitly describe the specific entity relationship claimed, it nonetheless suggests, in cols. 6 and 29, that entities can have any type of relationship to other entities. Thus, it would have been obvious to a person having ordinary skill in the art to include the claimed conduit to hardware relationship to the system taught by Zager and Galis, to allow for a more flexible and accurate model of the network system, and thus to allow for easy configuration to known, modern networks.

In considering claims 31-39, these claims, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 26, describing them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

In considering claim 40, Zager further discloses that the monitoring components further comprise class-type entities (col. 21, lines 54-56, "calls to the same class," manager applications entities (col. 27, lines 26-27, "Agent Manager"), device application configuration entities (col. 7, lines 10-18), ACL and authorization entities (col. 17, lines 35-38, "authentication and authorization security"), SNMP variables entities (col. 26, lines 39-67, "SNMP"), and VIP groups entities (col. 24, lines 11-39, "IP subnets"). Although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Zager and Galis, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

In considering claim 41, Zager further discloses a plurality of autonomous system map entities (col. 35, lines 47-48, "repository maps the service structurally to a specific bundle").

In considering claims 42-52, these claims, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 40, describing them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

In considering claim 53, Zager further discloses that the hardware entities include memory components entities (col. 6, lines 15-18, "hardware"; col. 28, line 6, "dictionary

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memory structures”), storage components entities (inherent in a computer hardware system), bus components entities (also inherent), interface entities (col. 8, lines 33-41, “interface”), device entities (“hardware”), CPU entities (inherent in hardware), and circuits entities (inherent in hardware). Although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Zager and Galis, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

In considering claims 54-62, and 64-65, these claims, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 53, describing them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

In considering claim 63, although neither Galis nor Zager mentions a virtual LAN, Examiner takes Official notice that virtual LANs are well known in the art. Thus, it would have been obvious to include a virtual LAN entity in the system taught by Zager so that the model would include all known networking technologies, thereby better estimating the configuration of the actual network, and allowing for easier configuration of known, modern networks.

In considering claim 66, Zager further teaches including DNS entities (col. 27, lines 54-62, “DNS”), including hosts and domains entities (“service provider”), ACL entities and allow

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queries (col. 17, lines 35-38, "authentication and authorization security"), and master IPs (col. 30, lines 15-26, "IP"). Although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Zager and Galis, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

In considering claim 67, Zager further discloses a plurality of DNS configuration entities (inherent in the DNS entities).

In considering claims 68-77, these claims, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 66, describing them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

In considering claim 78, Zager further discloses that the network entities further comprise accounts and account related entities (col. 3, line 50, "business units"), customer tiers entities (col. 16, lines 48-60, "customers"), data centers entities (col. 14, lines 30-50, "control repository"), and IP address entities ("IP"). However, Zager does not explicitly discuss the use of VLAN entities. Nonetheless, Examiner takes Official notice that virtual LANs are well known in the art. Thus, it would have been obvious to include a virtual LAN entity and VLAN-related entities, as claimed, in the system taught by Zager so that the model would include all

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known networking technologies, thereby better estimating the configuration of the actual network. Note that although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Zager and Galis, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

In considering claim 79, Zager further discloses a plurality of Site configuration entities (col. 30, lines 15-26, "client site[s]").

In considering claims 80-94, these claims, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 78, describing them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

In considering claim 95, Zager further discloses that the queues entities further comprise agent queues entities, agent-related commands entities (col. 20, lines 29-41, "Agent Manager," "queue infrastructure"). Although certain of the claim terms are not explicitly described by Zager or Galis, they are thus either disclosed via alternate terminology, or else are well known components in a network. It would have thus been obvious to include any known components of a network in the network model system taught by Zager and Galis, to more accurately model the network, and thus to allow for easy configuration to known, modern networks.

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In considering claims 96 and 97, Zager further discloses agent queue and agent command mutex entities (col. 19, lines 16-19, "mutex and asynchronous queue services").

In considering claims 98-100, like claims 3-6, describe the detailed entity-by-entity relationship between the network components mentioned in claims 1 and 95, describing them as either one-to-many or many-to-one relationships. Thus, these claims are rejected for the same reasons given regarding claims 3-6.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is (703) 306-3041. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (703) 305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

For all correspondences: (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER

